



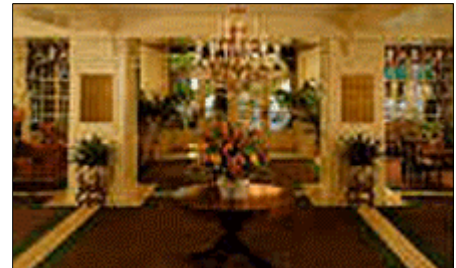
CASE STUDY

Williamsburg Hospitality House & Conference Center

Located in historic Williamsburg, Virginia, the Williamsburg Hospitality House & Conference Center is a 296-room property adjacent to Colonial Williamsburg and the campus of the College of William and Mary.

HVAC and Lighting

Current Initiatives: boiler was converted from oil to natural gas and burners have been upgraded to high-efficiency burners; timers used for lighting in closets and storage areas; exit signs are being replaced with models that illuminate only when the power goes off; chillers were replaced with new higher efficiency models; cooling towers were rebuilt two years ago; compact fluorescent wall sconces in most of the hallways.



Opportunity: Approximately 45-recessed canister fixtures in lobby with 65-watt incandescent bulbs that run 24-hours per day. Replacing with 20-watt compact fluorescent floodlights would yield a savings of at least \$711 annually and would save 394-kWh, nearly enough to run a home refrigerator/freezer for one year.

Changing over to compact fluorescent fixtures would also yield savings from:

- maintenance staff not changing 315 light bulbs
- less heat generated into the lobby area and less cooling required in the warm months
- avoided storage and disposal of 315 light bulbs

Water Use and Laundry

Current Initiatives: low-flow faucet aerators and showerheads in use; lower-flow toilets (3-1/2 gallons per flush) in use; dishwashers re-circulate cycle water; preventive maintenance of drips/leaks; water-efficient washers (reuse of filter wash water); energy-efficient dryers; linen segregation (wash using gentle cycle for lightly soiled); all linens except 100% cotton items washed in cold water.

Opportunity: replace 296-older toilets with 1.6 gallons per flush models, which would yield annual savings of 307,914 gallons of water and \$1,163.

Maintenance and Housekeeping

Current Initiatives: inventory tracking so that oldest products are used first; property is eliminating use of aerosols; use of latex paints throughout property except for existing alkyd paint in lobby; minimizing use of HVAC/cooling tower water treatment chemicals through magnetic or ionic-flux mechanisms; reusing cooling tower water as much as possible; furniture is refinished on-site rather than replaced; recycling cardboard and scrap metal; preventative maintenance of vehicles/equipment; effective systems of storage, labeling, and handling products; policy to use "dry" clean-up methods (versus using spray water).

Purchasing and Front Office

Current Initiatives: energy-efficient equipment in place (TV's/refrigerators/hair-dryers/irons/vehicles); extensive use of electronic documents/records; utilizing purchasing power to prescribe minimized packaging wastes (shrink-wrapping, excessive packaging) or requiring that vendors take back packaging; pallets returned to vendors or taken by employees; sheets and towels that have been replaced donated to charity; carpets have recycled content and no-VOC's (volatile organic compounds); use of some reused building materials.

Opportunity: purchase facial tissue, paper towels and bath tissue with recycled content.

- Switching to a minimum 20% postconsumer content bath tissue would save 0.8 tons of virgin paper, 9.6 trees, 3,280 kWh of electricity, 5,600 gallons of water and 48-lbs. of air pollutants annually.
- Switching to a minimum 10% postconsumer content facial tissue would save 0.4 tons of virgin paper, 4.8 trees, 1,640 kWh of electricity, 2,800 gallons of water and 24-lbs. of air pollutants annually.

Rooms

Current Initiatives: sheets changed every other day for multiple night guests; reusable glasses/mugs provided in rooms; efficient HVAC with individual thermostats; optional free newspapers; housekeeping staff uses one general-purpose cleaner for daily cleaning – stronger chemicals are used sparingly by floor supervisors.

Foodservice and Meetings

Current Initiatives: glasses, silverware, cloth napkins used for foodservice and meetings; food inventory management and bulk purchasing; kitchen grease recycling.

Opportunity: begin collecting and recycling approximately 2,000 aluminum cans per month from food and beverage operations. At \$0.23 per pound, aluminum recycling can generate \$14 per month and save the energy equivalent of 125 gallons of gas per month.

Landscaping

Current Initiatives: sprinklers run at night; well water used for irrigation; outside company handles plantings; use of integrated pest management, organic fertilizers and efficiently timed applications; abundance of indoor plants.

Tissue Savings Calculations for Williamsburg Hospitality House:

- Assuming 75% annual average occupancy, $296\text{-rooms} * 365\text{-nights} * 0.75\text{ occupancy} = 81,030\text{ room nights per year.}$
- Assume 1-roll bath tissue consumed every 4-room nights and 1-box facial tissue consumed every 4-room nights = $20,257\text{ rolls bath tissue, } 20,257\text{ boxes facial tissue, } 20,257\text{ rolls bath tissue} * 0.40\text{ lbs./roll} = 8103\text{ lbs.} = 4\text{-tons of bath tissue used per year}$
 $20,257\text{ boxes facial tissue} * 0.40\text{ lbs./box} = 8,103\text{ lbs.} = 4\text{ tons of facial tissue used per year}$

Based on the assumption that 1-ton of newsprint uses 12-trees and that every ton of recycled paper saves 4,100 kWh of electricity, 7,000 gallons of water, and 60-lbs. of air pollutants.

Energy Savings Calculation for Williamsburg Hospitality House:

- One 20-watt compact fluorescent floodlight w/ 8000 hour lifetime = \$15

- Electricity cost = 20 watts X 8000 hours / 1000 watts/kWh X \$0.08 /kWh = \$12.80
Total cost for 8,000 hours of light = \$27.80
- Eight 65-watt incandescent bulbs with 1,000 hour lifetime = 8 X \$0.25 = \$2.00
electricity cost = 65 watts X 8000 hours/1,000 watts/kWh X \$0.08 /kWh = \$41.60
Total cost for 8,000 hours of light = \$43.60

For 8,000 hours of light using a compact fluorescent in the lobby lights = \$15.80 per fixture or \$711 for all 45-lobby lights.

Water Savings Calculation for Williamsburg Hospitality House:

- 296-rooms with 3-½ gallons per flush toilets. Assuming 75% average annual occupancy and two flushes per day per occupied room, 296-rooms * 365-nights * 0.75 occupancy = 81,030 room nights per year * 2 flushes @ 3.5 gallons per flush = 567,210 gallons per year

Replacing with 1.6 gallons per flush toilets would mean annual use of 259,296 gallons, savings of 307,914 gallons per year, 307,914 gallons is 411 HCF (100 cubic feet of water equals 750 gallons), at \$1.21 per HCF for water and \$1.62 per HCF for sewer rates, \$1,163 dollars would be saved annually.



This report was developed by Green Seal, Inc., a non-profit organization that strives to achieve a healthier and cleaner environment by identifying and promoting products and services that cause less toxic pollution and waste, conserve resources and habitats, and minimize global warming and ozone depletion. Green Seal conducted “pollution prevention opportunity assessments” at 4 hospitality facilities in Virginia in support of Virginia’s *environmentaLodging* initiative. For more information, access Green Seal at <http://www.greenseal.org/index.html>.

For more information on the Williamsburg Hospitality House,
www.williamsburghosphouse.com

For more information on Virginia’s *environmentaLodging* initiative, contact:

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